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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/733,176	12/11/2003	Toshihiro Otake	9319S-000601	5944
27572	7590	08/24/2005	EXAMINER	
HARNESS, DICKEY & PIERCE, P.L.C. P.O. BOX 828 BLOOMFIELD HILLS, MI 48303			QI, ZHI QIANG	
			ART UNIT	PAPER NUMBER
			2871	
DATE MAILED: 08/24/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/733,176	OTAKE ET AL.	
	Examiner	Art Unit	
	Mike Qi	2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) 1-12 and 20-25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-15, 17-19 and 26-29 is/are rejected.
- 7) ☒ Claim(s) 16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>12/11/03; 5/3/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant's election with traverse of June 27, 2005 is acknowledged. The traversal is on the ground(s) that applicant request withdrawal of the Restriction requirement. This is not found persuasive because the claims contain a structure of a substrate and a method of manufacturing substrate, and the product as claimed can be made by another and materially different process; and the several embodiments would need different searches so that the burden of the examination exists.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 1-12 and 20-25 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected claims, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on June 27, 2005.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 13-15, 17-18 and 26-29 are rejected under 35 U.S.C. 102(b) as being anticipated by US 6,195,140 B1(Kubo et al).

Regarding claims 13,15 and 26-29, Kubo discloses (col.11, lines 20-50; Figs.1-6) a conventional substrate in the art comprising:

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- substrate (11);
- interlayer insulating film (19) as a base layer formed on the substrate (11), the base layer (19) having an edge that defines a boundary thereof as viewed in plan and a plurality of at least one of concave portions (such as the concave portions as shown in Figs. 5-6 as a first array of concave portions) and convex portions (such as the convex portions as shown in Figs. 5-6 as a second array of convex portions) on the upper surface of the base layer (19);
- the base layer (19) having an upper surface and peripheral edges defining an outer boundary of the base layer (19);
- reflecting layer (22) formed on the upper surface of the base layer (19) and having a light reflecting property.
- all of the concave portions and the convex portions on the upper surface of the interlayer insulating film (19) (as a base layer) are separated (or spaced from) from the edge of the interlayer insulating film (19) by a predetermined distance or an array of concave portions being located completely inboard of the edges of the base film (19) (see Figs. 5-6); and the distance between the edge of the base film (19) and the an envelop encircling all of the concave portions and convex portions is in a predetermined range;
- the edge of the base layer (19) defines an internal boundary with respect to the external region, and defines an external boundary with respect to the internal region as shown in Figs. 5-6.

Kubo met the limitations as claimed.

Regarding claim 14, Kubo discloses (see Figs.1-2 or Fig.48C) that an aperture (20) having a light transmitting portion for transmitting light in the interlayer insulating film (19) as a base layer, and the at least one of concave portions and convex portions are formed not to extend to an edge of the aperture (see Figs.5-6), and the reflecting layer is disposed in a portion excluding the aperture on the surface of the base layer.

Regarding claims 17-18, Kubo discloses (Fig.2) that an electro-optical device such as liquid crystal display device having substrate and counter substrate (11, 9), and electro-optical material such as liquid crystal (25) disposed between the substrates, and having pixel electrode (1) disposed on substrate (11) and counter electrode (10) disposed on substrate (9), and electro-optical material such as liquid crystal (25) disposed between the two electrodes.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,195,140 B1 (Kubo et al) as applied to claims 13-15, 17-18 and 26-29 above.

Regarding claim 19, any display can be used for an electronic apparatus.

Therefore, using a display unit in an electronic apparatus that are only given weight as interned use, and that would have been at least obvious.

Allowable Subject Matter

7. Claim 16 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record neither discloses nor teaches a structure of the substrate for an electro-optical device in which all the concave portions and convex portions on the surface of a base layer is separated from the edge of the base layer by a predetermine distance of 4 μm to 12 μm as shown in Figs.6 and 10 [claim 16].

The closest reference Kubo discloses that a liquid crystal display device having a reflective layer formed on a base layer (insulating layer) wherein a plurality of concave and convex portions on the surface of the base layer, and all of the concave portions and convex portions separated from the edge of the base layer by a predetermined distance. However, the prior art of reference do not teach having such distance of 4 μm to 12 μm as claimed.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mike Qi whose telephone number is (571) 272-2299.

The examiner can normally be reached on M-T 8:00 am-5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on (571) 272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


ROBERT KIM
SUPERVISORY PATENT EXAMINER

Mike Qi
Patent Examiner